What is claimed is:

1. An inverter circuit for discharge lamps for multi-lamp lighting, wherein two coils connected to a secondary winding of a step-up transformer of the inverter circuit are arranged, and magnetically coupled to each other to form a shunt transformer for shunting current such that magnetic fluxes generated thereby are opposed to each other to cancel out, and discharge lamps are connected to said coils, respectively, with currents flowing therethrough being balanced with each other, wherein a large number of discharge lamps are arranged in a surface light source, an electric conductor being arranged adjacent to said discharge lamps, wherein parasitic capacitances are generated between said discharge lamps and said adjacent conductor, said parasitic capacitances being added to each other as appropriate via said shunt transformer, wherein a synthetic impedance characteristic of an electrode portion of each of said discharge lamps except a series capacitive component thereof and a positive column has a negative resistance characteristic, and wherein lighting of said each of said discharge lamps is caused by the fact that a reactance of an inductance related to balancing operation of said shunt transformer, said reactance being in an operating frequency of the inverter circuit, exceeds a negative resistance of said each of said discharge lamps.

2. The inverter circuit for discharge lamps for multi-lamp lighting according to claim 1, wherein when one of said discharge lamps connected to said shunt transformer is not lighted, a core of said shunt transformer is saturated by a current flowing through a lighted one of said discharge lamps, whereby a voltage having a high peak value is generated at a terminal of said unlighted discharge lamp of said shunt transformer, thereby applying a high voltage to

said unlighted discharge lamp.

3. The inverter circuit for discharge lamps for multi-lamp lighting according to claim 1 or 2, wherein a shunt circuit is formed by arranging a plurality of shunt transformers, and wherein lamp currents of a plurality of discharge lamps are simultaneously balanced with each other with respect to one inverter output.

4. The inverter circuit for discharge lamps for multi-lamp lighting according to any one of claims 1 to 3, wherein said shunt circuit is formed by connecting said shunt transformers to each other in the form of a tournament tree, more specifically, by winding two windings of coils of each shunt transformer such that magnetic fluxes generated by said respective windings are opposed to each other, and connecting one ends of said windings to each other, with each of said other ends of said two windings other than said one ends connected to each other being connected to one ends of two windings of another shunt transformer, said one ends being connected to each other, whereby shunt transformers are sequentially connected to each other to form a multi-tier or pyramid-like structure.

5. The inverter circuit for discharge lamps for multi-lamp lighting according to any one of claims 1 to 3, wherein said shunt circuit as set forth in claim 3 is formed by connecting one coil of a shunt transformer to one coil of a shunt transformer in a next stage, connecting said other coil of said shunt transformer in said next stage, to one coil of a shunt coil in a further next stage, and providing a required number of similar connections such that a connecting relationship is formed in a turnaround fashion between all coils of shunt transformers, and wherein said shunt transformers of said shunt circuit have a sufficient

leakage inductance, thereby accommodating errors in an effective transformation ratio of each of said shunt transformers to thereby cause said lamp currents of said plurality of discharge lamps to be simultaneously balanced with each other.

6. The inverter circuit for discharge lamps for multi-lamp lighting according to claim 1 or 2, including said shunt transformer configured to have three or more coils arranged such that magnetic fluxes generated by said respective coils are opposed to each other to cancel out, whereby respective lamp currents of discharge lamps connected to said coils are simultaneously balanced with each other.

7. The inverter circuit for discharge lamps for multi-lamp lighting according to any one of claims 1 to 6, wherein said shunt transformers are connected by the connecting method as set forth in claim 5.

8. The inverter circuit for discharge lamps for multi-lamp lighting according to any one of claims 1 to 7, wherein when said shunt coils are connected to form a multi-tier structure, a reactance value of an upper shunt coil is sequentially reduced in comparison with that of a lower shunt coil, whereby a number of turns of shunt coils is progressively reduced.

9. The inverter circuit for discharge lamps for multi-lamp lighting according to any one of claims 1 to 4, wherein said step-up transformer is replaced by a piezoelectric transformer.

10. The inverter circuit for discharge lamps for multi-lamp lighting according to any one of claims 1 to 5, wherein a diac is appropriately arranged in parallel with

each winding of said shunt transformer.

11. The inverter circuit for discharge lamps for multi-lamp lighting according to any one of claims 1 to 6, including diodes each having one end thereof connected to a junction point connecting each winding of said shunt transformer and an associated one of said discharge lamps, the other ends of said diodes being connected into one, and a detection circuit for detecting a voltage generated when any one of said discharge lamps becomes abnormal.

12. The inverter circuit for discharge lamps for multi-lamp lighting according to any one of claims 1 to 7, wherein said detection circuit is properly disposed, and said shunt transformer is arranged on a low-voltage side of said discharge lamps.

13. The inverter circuit for discharge lamps for multi-lamp lighting according to any one of claims 1 to 11, wherein said two coils of each shunt transformer have obliquely-wound windings.

14. A surface light source system wherein said shunt circuit is formed as a module independent of the inverter circuit, and disposed on a side of said surface light source in a manner matching shunting conditions of said discharge lamps of said surface light resource as set forth in claim 1.